

Imber S

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Introduction

Imber S is Teldat's industrial router designed to deliver secure and reliable connectivity for M2M, SCADA and industrial environments. It combines 4G mobile communications with dual SIM, Ethernet and optional Wi-Fi in a compact and rugged form factor that enables 24/7 operation in remote and demanding locations.

It incorporates advanced capabilities to integrate serial and IP devices, along with industrial protocol conversion and multiple corporate VPNs to protect critical infrastructure.

Integration with Cloud Net Manager enables centralized management that streamlines deployments and reduces operational costs.

Interfaces

Fast Ethernet Ports	2 x 10/100 Mbps ports (RJ45)
4G Connectivity	1 x LTE module (2G/3G/4G) with dual SIM trays
Wi-Fi connectivity	1 x IEEE 802.11b/g/n module @ 150 Mbps
GPS/GNSS	1 x GPS/GNSS module (optional)
Serial ports	1 x RS-232 (3 pins) + 1 x RS-485 (2 pins)
Antenna connectors	4G: 2 x SMA. Wi-Fi: 1 x RP-SMA

Highlight

- Dual SIM LTE connectivity
- 2 Fast Ethernet ports
- Wi-Fi IEEE 802.11b/g/n (AP mode or Client mode)
- 2 serial interfaces
- SCADA protocols (Modbus, IEC-101/102, gateway IEC-104)
- Rugged design to operate in harsh industrial environments
- Extended temperature range (-40°C to 75°C)



Competitive Advantages

Reliable and flexible communications	The combination of 4G, Ethernet, Wi-Fi and serial connectivity provides flexibility and reliable communications for deployments in industrial environments.
Rugged hardware design	Adaptable hardware design for unattended installations, with extended temperature range (-40°C a 75°C) and electrical/electromagnetic immunity.
Easy set-up and deployment	Easy installation thanks to its compact design, DIN-rail mounting and fast web-based configuration, making it ideal for large-scale field deployments.
Multiple power supply options	The best option for each scenario: DC (9-36 VDC), AC (110-240 VAC using external power adapter included).

Key Features

- **2 Fast Ethernet ports.** Imber Smart features 2 Fast Ethernet ports 10/100 BASE-T with RJ45 connectors. One of them is configurable as LAN/WAN interface.
- **Wi-Fi IEEE 802.11b/g/n.** Imber Smart supports 2,4G Wi-Fi band and it can operate in either Access Point mode or Client mode.
- **IEC-101 to IEC-104 serial-IP and gateway encapsulation.** Data from the serial port can be transparently encapsulated over IP. The "IEC-101 to IEC-104 gateway" function also allows IEC-101 RTUs to be maintained and central management software to migrate to IEC-104.
- **Extended temperature range (-40°C to 75°C).** Imber Smart housing is designed for optimal heat dissipation, guaranteeing operation between -40°C and 75°C with up to 95% humidity. It can be mounted on a DIN rail or wall.
- **Web GUI configuration.** Web-based management simplifies the configuration, deployment and maintenance of the Imber Smart, enabling fast, secure and remote control without the need for specialized tools.
- **2G/3G/4G (dual-SIM).** Embedded 2G/3G/4G interface with a dual SIM card tray for automatic backups. Advanced Teldat system for proactive monitoring and automatic recovery from WWAN incidents.
- **Serial interfaces (RS-232 y RS-485).** Imber Smart features serial RS-232 and RS-485 interfaces with support for SCADA protocols.
- **Multiple corporate VPNs (IPSec, OpenVPN, GRE, DMVPN).** It offers advanced encrypted connectivity to ensure the integrity and protection of critical industrial and SCADA infrastructures.
- **Multiple power supply options.** Imber Smart features an input voltage range from 9 to 36 VDC. It also includes by default an external AC/DC 100-240V power adapter.
- **Centralized Management using Cloud Net Manager platform.** Imber Smart supports centralized remote management through Teldat Cloud Net Manager, simplifying large-scale deployments, accelerating field supervision, and reducing operational costs.

HARDWARE TECHNICAL FEATURE

WWAN Interface

Built-in hardware module with 4G technology (compatible with 3G/2G)
Dual SIM tray (internal)
2 x external antennas with SMA connectors

Wi-Fi Interface

IEEE 802.11b/g/n Access Point (AP) and Client modes
Wireless Security WPA WPA2 WEP 64/128 AES TKIP
RP-SMA for Wi-Fi antenna connector

Dimensions and weight

L x W x H: 103.3 x 82.8 x 28.8 mm
Approximate weight: 220g
Format: DIN track and wall mounting

Fast Ethernet Interfaces

2 x 100/100 Mbps ports (RJ45 connector)
802.3i (10 BaseT), 802.3u (100 BaseT)
Supports duplex, IEEE 802.3u link speed auto-negotiation, VLAN

Serial interface

1 x RS-232 (3 pins): TX, RX, GND
1 x RS-485 (2 pins): Data+(A), Data-(B)
Baud Rate 300bps to 115200bps

SOFTWARE TECHNICAL FEATURE

Connectivity

Configurable VLANs, advanced LAN port assignment and multiple IP addresses per interface
Connection Manager: prioritization, link availability/quality management with ICMP-based detection
2.4 GHz Wi-Fi in AP/Client mode with WPA/WPA2 and TKIP/CCMP encryption

Security (1)

IPSec VPN (tunnel/transport), IKEv1/IKEv2
DES, 3DES, AES-128/192/256 cyphering; MD5, SHA-1, SHA-2 (256/384/512)
Support for OpenVPN, GRE and L2TP

IP Services

DHCP, DNS, HTTP/HTTPS, FTP/SFTP, SSH, NTP
Syslog, SMS Control, SMS Gateway, Automated SMS alerts, Modbus Alarm via SMS

Specific WWAN functions

Mobile operator auto-selection, auto-APN, monthly data limits, band selection
Advanced modem monitoring: CSQ, operator, CellID, PLMN, active technology, TX/RX bytes
Dual-SIM automatic switchover based on failure, coverage or data limit

Device configuration and management

Web GUI
CLI via Telnet and SSH
AT commands

IP Protocol

ARP, Proxy ARP, MTU adjustment, NAT and Port Forwarding
Static and dynamic routing with RIP, OSPF and BGP
DHCP Server/Client/Relay, DDNS with multiple providers

Security (2)

Advanced firewall with ACLs, 1:1 NAT, DMZ, URL filtering
Advanced DoS/DDoS protection
Secure management via HTTPS/SSH and enhanced administration access authentication

Quality of Service

Bandwidth management via MTU and traffic control per interface
Prioritization per interface type (WWAN, wired LAN, Wi-Fi) using Connection Manager

Industrial Protocols

Modbus RTU/TCP, Modbus-to-DNP3 gateway
IEC-101 to IEC-104 gateway
Serial-IP via TCP Server/Client and UDP

Management

Advanced troubleshooting tools: diagnostic: integrated Sniffer, Traceroute, Ping, AT Debug
Local/remote Syslog; RAM/Flash log storage
Manageable via Zero Touch Provisioning with Cloud Net Manager

ADDITIONAL TECHNICAL FEATURE

LEDs

SYS, NET, USB, 3 x RSSI

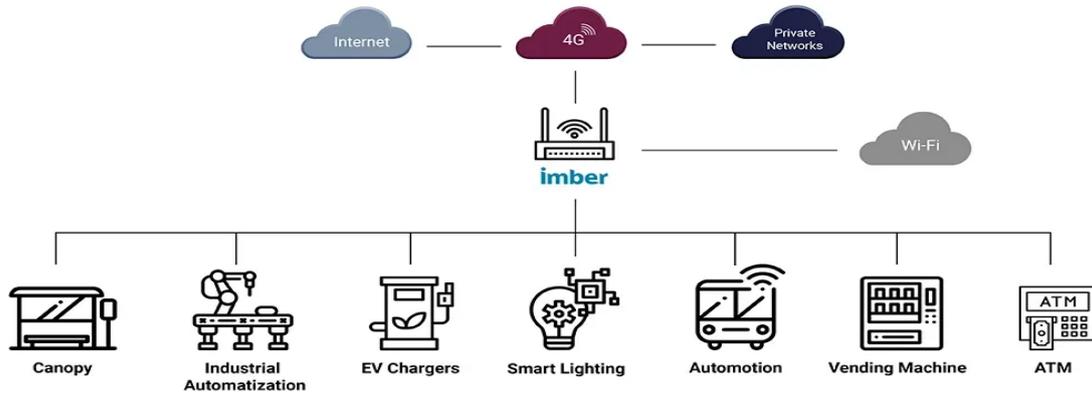
Certifications

EMC Emissions: EN 55032
Immunity: EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6
Vibrations: EN50155

Environmental specifications

Operating Temperature: -40°C to 75°C
Storage Temperature: -40°C to 85°C
Relative humidity: 5% to 95%

Scenarios



Teldat Group